

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 October 2003 (23.10.2003)

PCT

(10) International Publication Number
WO 03/088716 A1

(51) International Patent Classification⁷: H05B 3/42, 3/08

(21) International Application Number: PCT/SE03/00386

(22) International Filing Date: 7 March 2003 (07.03.2003)

(25) Filing Language: Swedish

(26) Publication Language: English

(30) Priority Data:
0201041-1 5 April 2002 (05.04.2002) SE

(71) Applicant (for all designated States except US): SAND-
VIK AB [SE/SE]; S-811 81 Sandviken (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ANDERSSON,
Jan [SE/SE]; Jophanneshajden 4, S-722 18, Vasteras
(SE). ERIKSSON, Emil [SE/SE]; Linnégatan 3B, S-722
15 Västerås (SE). SAHLSTRÖM, Jörgen [SE/SE];
Barnängsgatan 31C, S-734 35 Hallstahammar (SE).

(74) Agents: ÖRTENBLAD, Bertil et al.; Noréns Patentbyrå
AB, Box 10198, S-100 55 Stockholm (SE).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, YU, ZA, ZM, ZW.

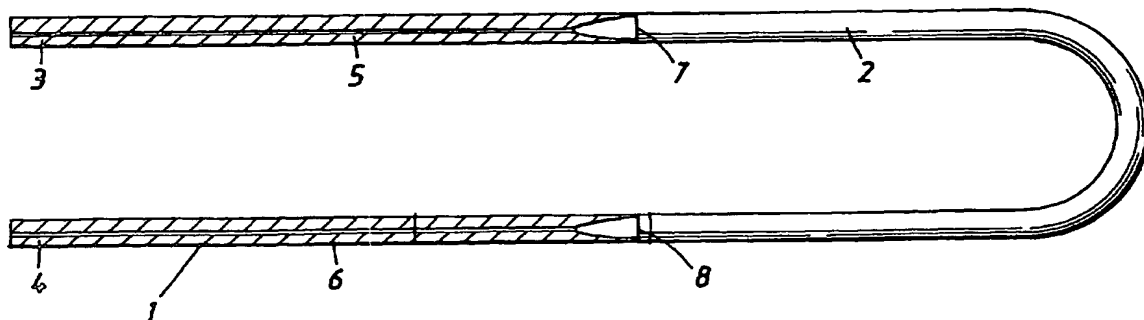
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: ELECTRICAL HEATING RESISTANCE ELEMENT



(57) Abstract: The present invention relates to an electrical resistance element comprising a glow zone and two power supply terminals. The invention is characterised in that the flow zone (2) of the element (1) is tubular; and in that a union (5, 6) is provided between respective terminals (3, 4) and respective ends (7, 8) of the glow zone (2). Figure 1 to be published.

WO 03/088716 A1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00386

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H05B 3/42, H05B 3/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3518351 A (R.W.OHNSORG ET AL), 30 June 1970 (30.06.70), column 2, line 52 - column 3, line 23, figure 1	1-2,7-8
Y	--	3-6
A	US 3269806 A (E.FITZER ET AL), 30 August 1966 (30.08.66), column 9, line 49 - line 67, figures 1-2	1-8
Y	GB 834739 A (AKTIEBOLAGET KANTHAL), 11 May 1960 (11.05.60), page 2, line 130 - page 3, line 6, figures 1-2, claim 7	3-6
	-- -----	

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

27 May 2003

Date of mailing of the international search report

17 -06- 2003

Name and mailing address of the ISA/

Swedish Patent Office
Box 5055, S-102 42 STOCKHOLM
Facsimile No. +46 8 666 02 86

Authorized officer

Roland Landström /itw
Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

Information on patent family members

29/04/03

International application No.

PCT/SE 03/00386

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
US	3518351	A	30/06/70	BE	743172 A	15/06/70
				DE	1962584 A,B,C	25/06/70
				FR	2030863 A	13/11/70
				GB	1279478 A	28/06/72
				JP	49014019 B	04/04/74

US	3269806	A	30/08/66	CH	479221 A	30/09/69
				DE	1243078 B	22/06/67
				GB	993499 A	26/05/65
				SE	305404 B	21/10/68

GB	834739	A	11/05/60	NONE		
